

CLAIMS:

1. (Currently Amended) An apparatus, comprising:

a Switch configured to couple a first fabric having a first set of end devices and a second fabric having a second set of end devices, each of the first set of end devices and the second set of end devices having a unique Domain_ID address respectively, the Switch configured to enable communication between the first set of end devices in the first fabric with the second set of end devices associated with the second fabric while maintaining the unique Domain_ID addresses of the first set of end devices and the second set of end devices,

wherein the first fabric and the second fabric are configured to be separate physical fabrics; and

the Switch is a Border Switch that is configured to be part of both the first fabric and the second fabric, the Border Switch configured to send inject frames of information including Fabric Shortest Path First (FSPF) frames between the first fabric and the second fabric to enable communication between members of the first set of end devices and the second set of end devices.

2. (Original) The apparatus of claim 1, wherein the first and second fabrics are first and second Virtual Storage Area Networks (VSANs) respectively.

3. (Cancelled)

4. (Cancelled)

5. (Original) The apparatus of claim 1, wherein the first fabric and the second fabric are Edge fabrics and further comprising a Transit fabric configured to carry traffic between the first fabric and the second fabric.

6. (Original) The apparatus of claim 1, wherein the first fabric and the second fabric are adjacent to each other and the Switch is configured to directly switch traffic between end devices in the first and second fabrics.

7. (Previously Presented) The apparatus of claim 1, wherein the Border Switch is configured within an Inter-VSAN zone, the Inter-VSAN zone including members from the first set of end devices associated with the first fabric and the second set of end devices associated with the second fabric.

8. (Currently Amended) The apparatus of claim 7, wherein the Border Switch determines via the Inter-VSAN zone:

(i) the content of a name server database that is exported from one of the adjacent fabrics to the other and vice versa;

(ii) the set of Fabric Shortest Path First (FSPF) domains to export in Link State Update (LSU) messages;

(iii) the set of addresses to switch from one of the adjacent fabrics to the other and vice versa; and

(iv) the set of adjacent fabrics to which Switch Register State Change Notifications (SW_RSCNs) received from a fabric are propagated and vice-versa.

9. (Currently Amended) The apparatus of claim 2, wherein the Border Switch is further configured to perform one or more of the following:

(i) exchange Inter-VSAN routing protocol (IVRP) messages with other Border Switches in the first fabric and the second fabric;

(ii) exchange Fabric Shortest Path First (FSPF) information between neighboring Switches in each fabric;

(iii) propagate FSPF updates across the fabrics only if the updates affect routes and link cost to any exported Domain_IDs;

(iv) proxy as the name server in ~~a~~ the first fabric for one or more Switches in the second fabric that is exported into the first fabric and vice-versa;

(v) rewrite ~~a~~ the-VSAN of a frame received from the first VSAN to the second VSAN if traffic is destined to the second VSAN; and

(vi) constrain control traffic including FSPF, zone server, and name server within a single fabric.

10. (Original) The apparatus of claim 7, wherein the Border Switch in the Inter-VSAN zone supports the definition and exchange of Inter-VSAN zones.

11. (Previously Presented) The apparatus of claim 7, wherein a name server database in the Border Switch is configured to perform one or more of the following:

(i) build a list of name server entries to be exported from a first fabric to the second fabric and vice-versa; and

(ii) proxy as a name server in a first fabric for one or more Switches in the second fabric that is exported into the first fabric and vice-versa.

12. (Previously Presented) The apparatus of claim 11, wherein the Border Switch is further configured to generate Switch Register State Change Notifications (SW_RSCNs) across the fabrics when the name server database changes.

13. (Currently Amended) The apparatus of claim 12, wherein the Border Switch is further configured to prevent replication of RSCNs ~~RCSNs~~ in one of the following ways:

(i) selecting a first Switch and a second Switch in the first or second fabric for distributing RSCNs ~~RCSNs~~ in each fabric respectively;

(ii) statically configuring the fabrics; or

(iii) selecting a specified Switch to distribute the RSCNs ~~RCSNs~~.

14. (Previously Presented) The apparatus of claim 1, wherein the Switch enables communication between the end devices in the first fabric and the second fabric while maintaining the unique Domain_IDs of each of the first set and the second set of end devices by:

(i) administratively partitioning a domain number space across the fabrics; or (ii) associating a range of Domain_IDs to be used only for Inter-VSAN routing.

15. (Currently Amended) An apparatus, comprising:
a first fabric;
a second fabric;

a first set of end devices associated with the first fabric and a second set of end devices associated with the second fabric, the first set and the second set of end devices each having a unique Domain ID-~~Domain ID~~-address respectively; and

a communication mechanism configured to enable the first set of end devices associated with the first fabric to communicate with the second set of end devices associated with the second fabric while maintaining the unique Domain ID-~~Domain ID~~-addresses of the first set of end devices and the second set of end devices,

wherein the communication mechanism is a Border Switch that is configured to be part of both the first fabric and the second fabric, the Border Switch configured to send inject-frames of information including Fabric Shortest Path First (FSPF) frames between the first fabric and the second fabric to enable communication between members of the first set of end devices and the second set of end devices.

16. (Currently Amended) The apparatus of claim 15, wherein the communication mechanism is a Switch configured to couple the first fabric and the second fabric, the Switch configured to enable communication between the first set of end devices in the first fabric with the second set of end devices associated with the second fabric while maintaining the unique Domain ID-~~Domain ID~~-addresses of the first set of end devices and the second set of end devices.

17. (Original) The apparatus of claim 15, wherein the first and second fabrics are first and second Virtual Storage Area Networks (VSANs) respectively.

18. (Original) The apparatus of claim 15, wherein the first fabric and the second fabric are separate physical fabrics.

19. (Cancelled)

20. (Original) The apparatus of claim 15, wherein the first fabric and the second fabric are Edge fabrics and further comprising a Transit fabric configured to carry traffic between the first fabric and the second fabric.

21. (Original) The apparatus of claim 16, wherein the first fabric and the second fabric are adjacent to each other and the Switch is configured to directly switch traffic between end devices in the first and second fabrics.

22. (Previously Presented) The apparatus of claim 15, wherein the Border Switch is configured within an Inter-VSAN zone, the Inter-VSAN zone including members from the first set of end devices associated with the first fabric and the second set of end devices associated with the second fabric.

23. (Currently Amended) The apparatus of claim 22, wherein the Border Switch determines via the Inter-VSAN zone:

- (i) content of a name server database that is exported from one of the adjacent first or second fabrics to the other and vice versa;
- (ii) a set of Fabric Shortest Path First (FSPF) domains to export in Link State Update (LSU) messages;
- (iii) a set of addresses to switch from one of the adjacent first or second fabrics to the other and vice versa; and
- (iv) a set of adjacent fabrics to which SW_RSCNs received are propagated to and vice-versa.

24. (Currently Amended) The apparatus of claim 15, wherein the Border Switch is further configured to perform one or more of the following:

- (i) exchange Inter-VSAN routing protocol (IVRP) messages with other Border Switches in the first fabric and second fabric;
- (ii) exchange Fabric Shortest Path First (FSPF) information between neighboring Switches in each fabric;
- (iii) propagate FSPF updates across the fabrics only if the updates affect routes and link cost to any of the exported Domain_IDs;
- (iv) proxies as the name server in the first fabric for one or more Switches in the second fabric that is exported into the first fabric and vice-versa;

(v) rewrite a~~the~~-VSAN of a frame received from a first VSAN to a second VSAN if traffic is destined to the second VSAN; and

(vi) constrain control traffic including FSPF, zone server, and name server within a single fabric.

25. (Original) The apparatus of claim 23, wherein the Border Switch in the Inter-VSAN zone supports the definition and exchange of Inter-VSAN zones.

26. (Currently Amended) The apparatus of claim 23, wherein the name server database in the Border Switch is configured to perform one or more of the following:

(i) build a~~the~~-list of name server entries to be exported from a first fabric to the second fabric and vice-versa; and

(ii) proxy as the name server in a first fabric for one or more Switches in the second fabric that is exported into the first fabric and vice-versa.

27. (Previously Presented) The apparatus of claim 26, wherein the Border Switch is further configured to generate Switch Register State Change Notifications (SW_RSCNs) across the fabrics when the name server database changes.

28. (Currently Amended) The apparatus of claim 27, wherein the Border Switch is further configured to prevent replication of RSCNs~~RCSNs~~ in one of the following ways:

(i) selecting a first Switch and a second Switch in the first or second fabric for distributing RSCNs~~RCSNs~~ in each fabric respectively;

(ii) statically configuring the fabrics; or

(iii) selecting a specified Switch to distribute the RSCNs~~RCSNs~~.

29. (Previously Presented) The apparatus of claim 16, wherein the Switch enables communication between the end devices in the first fabric and the second fabric while maintaining the unique Domain_IDs of each of the first set and the second set of end devices by:

(i) administratively partitioning a domain number space across the fabrics; or (ii) associating a range of Domain_IDs to be used only for Inter-VSAN routing.